

Table II-4a. OTAG Strategy Control Packets for NOx.

NOX Strategy Packets	Utility System <i>[Mostly elevated]</i>	Other Point/Area <i>[Mixed Elevated & Non-elevated]</i>	Nonroad Mobile <i>[Non-elevated]</i>	Highway Mobile <i>[Non-elevated]</i>
Base 1 (Mandated CAA controls)	<ul style="list-style-type: none"> * Title IV Controls <i>[Phase 1 & 2 for all boiler types]</i> * 250 Ton PSD and NSPS * RACT & NSR in non-waived NAAs 	<ul style="list-style-type: none"> * RACT at major sources in non-waived NAAs * 250 Ton PSD and NSPS * NSR in non-waived NAAs 	<ul style="list-style-type: none"> * Fed Phase II Small Eng. Stds * Fed Marine Engine Stds * Fed HDV (≥ 50 hp) Stds-Phase 1 * Fed RFG II⁴ 	<ul style="list-style-type: none"> * Tier 1 LDV and HDV Stds * Fed RFG II⁴ * Enh I/M³ * Low Enh I/M for rest of OTR * Basic I/M in mandated areas * Clean Fuel Fleets for mandated areas
Level 0	Base 1 plus: <ul style="list-style-type: none"> * OTC NOX MOU (Phase II) * "9% by 99" ROP Measures (If substitute for VOC)³ 	Base 1 plus: <ul style="list-style-type: none"> * "9% by 99" ROP Measures (If substitute for VOC)³ 	Base 1 plus: <ul style="list-style-type: none"> * Fed Locomotive Standards (not including rebuilds) * "9% by 99" ROP Measures (If substitute for VOC)³ 	Base 1 plus: <ul style="list-style-type: none"> * National LEV * HDV 2 gm std * FTP revisions * "9% by 99" ROP Measures (If substitute for VOC)³

Added NOX Controls - Level 1	More stringent of Level 0 or: * 55% reduction from 1990 rate or * rate-base of 0.35 lb/mmbtu for coal units and 0.20 lb/mmbtu for gas & oil units, whichever is less stringent ⁷	Level 0 plus: Controls rated by OTAG as under \$1000 per ton	Level 0 plus: * Fed Locomotive Stds (incl rebuild standards) ¹ [Replaces Fed Locomotive Stds (not including rebuilds)] * HD engine 4 gm Std	Level 0 plus: * High Enh I/M for LDV (LEV-specific cutpoints) ⁶ [Replaces Enh I/M ³ , Low Enh I/M for rest of OTR, & Basic I/M in mandated areas] * HDV I/M ⁶
Added NOX Controls - Level 2	More stringent of Level 0 or: a) * 65% reduction from 1990 rate or * rate-base of 0.25 lb/mmbtu for coal units and 0.20 lb/mmbtu for gas & oil units, whichever is less stringent ⁷	Level 1 plus: Controls rated by OTAG as \$1000 to \$5000 per ton	Level 1 plus: * Reformed Diesel (50 cetane) ²	Level 1 plus: * Fed RFG II ^{2 5} [Replaces Fed RFG II ⁴] or Low Sulfur Fuel (150 ppm) ^{2 5} * Reformed Diesel (50 cetane) ² * Max I/M for LDV w/ LEV-specified cutpoints ⁶ [Replaces High Enh I/M for LDV (LEV-specific cutpoints) ⁶]
Added NOX Controls - Level 2	More stringent of Level 0 or: b)* 75% reduction from 1990 rate or * rate-base of 0.20 lb/mmbtu for all units, whichever is less stringent ⁷			

Deep NOX Controls - Level 3	More stringent of Level 0 or: * 85% reduction from 1990 rate or * rate-base of 0.15 lb/mmbtu for all units, whichever is less stringent ⁷	Level 2 plus: Controls rated by OTAG as over \$5000 per ton	Level 2 plus: * Reformed Diesel (55 cetane) ² ⁸ [Replaces Reformed Diesel (50 cetane) ²]	Level 2 plus: * Cal RFG II ² [Replaces Fed RFG II ^{2 5}] * Reformed Diesel (55 cetane) ^{2 8} [Replaces Reformed Diesel (50 cetane) ²]
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¹National.

²OTAG Wide or Specified.

³Serious and above areas.

⁴Statutory and opt-in areas.

⁵OTAG-Optimized fuel (e.g., low RVP, low sulfur, low olefins) was evaluated elsewhere during OTAG as an alternative.

⁶For all nonattainment areas & attainment MSAs/CMSAs $\geq 100,000$.

⁷Qualifications set by OTAG on the use of lb/MMBtu numbers:

(1) These numbers are for initial strategy modeling purposes only. They do not reflect any recommendation from OTAG on the desired level of reduction for these units. (2) OTAG reserves the right to do sensitivity analyses on any source in an effort to achieve a desired ozone impact. Such sources may include those that chose the lb/MMBtu option. The requirement for such analyses may exist in certain areas where the size and location of such a major source is critical to achieving the ozone goals. (3) The alternative lb/MMBtu limits shall not supersede an existing requirement that is more stringent (e.g., OTC MOU or NSPS requirements).

⁸OTAG evaluated California diesel separately.